

**FERMILAB PILOT FOR THE
NECESSARY AND SUFFICIENT CLOSURE PROCESS
STAKEHOLDER PARTICIPATION PLAN
6/14/95**

One of the vital elements of the Necessary and Sufficient Process is the identification and involvement of Stakeholders. This plan identifies the stakeholders and specifies the degree and mechanisms for their involvement.

Department Standards Committee

The Department Standards Committee (DSC) is a stakeholder. Communication with the DSC will be through Rod McCullum who will act as a Subject Matter Expert for the Team and also is a member of SPAT 3/4 of the DSC. Contact with the DSC is also maintained through the DOE-ER and the DOE-CH representatives on the DSC.

DOE-EM

The DOE-EM is a stakeholder. Communication with DOE-EM will be provided by a liaison arrangement between a Team Member, Jon Cooper (DOE-BAO-ER), and Sally Arnold (DOE-BAO-EM). Jon will relay EM concerns to the Team.

DOE-EH

DOE-EH as a stakeholder will communicate with the Team by the liaison arrangement between a Team member, Paul Neeson (DOE-CH), and Maggie Sturdivant (DOE-EH-31). The Process Leader will also invite Maggie Sturdivant to send a technically qualified observer to some Team meetings.

Employees and Union Members

The Fermilab employees, union and nonunion, will be notified about the Necessary and Sufficient Process Pilot and with invitation to comment through a publicity article in the Fermilab newspaper. A copy of the Pilot Charter, Identification Team Charter, Stakeholder Plan, and a list of ES&H issues being considered will be put in each division/section

office. Every employee will be notified and invited to comment. Their input will be brought to the Team by the Process Leader.

Public

The public involvement as stakeholders will be solicited in a news release. The Process Leader will bring public concerns to the Team. The participation is not expected to be significant because of the history of interactions between the public and Fermilab.

1) The few public hearings held have drawn insignificant comments from the public, 2) public notices for environmental permits typically bring no comments, 3) Fermilab is designated a low hazard facility, 4) as documented in the 1993 Environmental Report the maximum annual site boundary dose is typically less than 0.001 rem and the potential radiation dose to the public is typically less than 0.1 person rem, 5) The Hazard Assessment done in 1994 indicates that the only potential for impact to the public from chemicals comes from chlorine used to treat water--the use of that material has now been discontinued, 6) The Lab maintains membership with two intergovernmental organizations. There are no outstanding ES&H issues with either organization, 7) The Lab belongs to two "local industrial peer" groups, the East West Corporate Corridor Association and the Fermilab Industrial Affiliates. There are no outstanding ES&H issues with either of these organizations, and 8) there have been no occasions for ES&H related agreements with public.

In summary there is no history of public concerns with the ES&H impacts of Fermilab and no reason to expect that will change with this process. Fermilab is an open site--with tens of thousands of visitors each year. Thousands of the members of the public annually attend regularly scheduled social events held on the site.

Agreements do exist with neighboring communities to share resources for emergency responses, i.e. mutual aid agreements. If as a result of this process, it appears that those agreements could be impacted those communities will be consulted.

Regulators, State and Local

Fermilab has every intention of continuing to comply with applicable Federal State and local regulations. These stakeholders will not be consulted unless it is determined during this process that the ability to meet their expressed expectations will be altered. There is

essentially no potential for off-site impact, either now, nor will there be after any changes which this process could produce. There are no formal local or state agreements which could be impacted by this process.

Research Community

A liaison relation has been established with the research, user, community. Their input will be coordinated by a physicist team member acting as liaison with the User Executive Committee representative.

Subcontractors

Subcontractors that are presently working at the site, or have worked at the site in the past few years, will be informed of the process by letter from the Fermilab contracts office. They will be requested to send their comments to the contracts officer. That input from the subcontractors will be relayed to the Team by the Process Leader.

Issue Identification Process



Fermilab

Director's Office

March 22, 1995

To: Division/Section Heads

From: Larry Coulson

Subject: Information Needed for the Necessary and Sufficient Standards Pilot

We are in the process of setting up meetings to discuss and collect information needed for the Pilot Project for Necessary and Sufficient Standards. The information collected from you, and other sources, will be used to characterize the work and hazards at the Lab. These data will form the basis for the information which will be presented to the Standards Identification Team which will recommend the Necessary and Sufficient Standards. For this process to be successful on such a short time scale, we will need your cooperation in assembling comprehensive information on the work processes and hazards within your organization. We hope to finish this phase of the process by April 3.

Attached is a preliminary hazard list and a list of questions. These attachments represent the information we need about each group within your division/section. (I have in mind here, that a group is the same as a "box" on the large organization chart.) Please make a copy of the attachments for each group (box). If several groups (boxes) have similar hazards and activities you may want to lump them together. In order to keep the meetings short, it would be useful to have as much of the information as possible filled out ahead of time for each group. To speed analysis of data and preparation of the information for submission to the Standards Identification team, we would like to collect as much information as possible electronically in MSWord

(MAC) format. To facilitate this, the same information will be sent to you electronically.

At the meetings, please have 1) either yourself or other d/s management representative, 2) your SSO, (attendance of other ES&H personnel from your d/s is at your discretion), and 3) sufficient management/supervisory persons to be knowledgeable about the information being requested for each group (box). Also in attendance will be a Discussion Leader (Tim Miller, Ray Stefanski, Don Cossairt, or Larry Coulson) and some ES&H Subject Matter Experts either from the ES&H Section or elsewhere in the Lab.

Thank you for your cooperation on such short notice. Please call me (ext. 5242) if you have any questions.

cc: SSOs
Ray Stefanski
D. Cossairt
T. Miller

INFORMATION TO BE COLLECTED FOR EACH GROUP

DIVISION/SECTION _____ DATE ____ / ____ /95

GROUP _____

CONTRIBUTORS AND ATTENDEES AND THEIR AFFILIATION (collect at meeting)

1. Are there specific performance expectations and/or objectives for this group? (e.g. goals for safety, quality, and operations)
2. Describe the work activities of this group. Try to be descriptive enough that a knowledgeable technical person will understand the nature of the work and how the hazards checked on the hazards list enter into the work. Generally a few sentences should be sufficient.
3. Physical and environmental conditions within which the work is performed (e.g. office, outdoors, in the tunnel)?
4. Materials and conditions that could cause adverse consequences? (For example, see the attached Preliminary Hazard List.)
5. Uncertainties which could affect the work (e.g. budgets, program changes, regulatory uncertainties, new technologies)?
6. Organization and management issues that could affect the work?

7. What protective equipment is used?
8. Are there any protective systems used (e.g. alarm systems, interlocks, etc.)?
9. Are special standards or requirements imposed beyond the usual Fermilab standards and requirements?
10. Are there any special training needs, either already done or needing to be done?
11. Are there special environmental pollution potentials as a result of this groups activities?
12. Are there special vulnerabilities for the Lab (e.g. possible fines, public relation problems, or civil/criminal penalties)?
13. What hazards do you judge to need more resources than now available?
14. What required activities do you consider a waste of your resources.

Instructions Filling Out the Preliminary Hazard List

This is intended to be a generic list of hazards potentially found at Fermilab. The work of any particular group may involve exposure to one or more of these hazards. Please indicate which hazards apply to the group by filling out the two columns next to applicable hazards. If you believe there are issues not indicated in the hazard list please list those at the bottom of the list. The two columns labeled "rank" and "OFEP" should be filled out as follows.

- The column labeled "class" is intended to allow you to indicate the subjective "seriousness rank" of the hazard. It is a simple ranking:

1= a serious hazard common in the work of the group.

2= a serious hazard but uncommon in the work of the group, or a minor hazard common in the work.

3= a minor hazard which is not a significant aspect of the work.

If you rank a hazard as 1, please indicate on the work sheet, in item 2 above, what work activity involves that hazard.

- The column labeled OFEP is used to indicate the scope of the hazard as follows:

Enter all letters that apply.

O= an occupational exposure, i.e. the hazard has potential impact only for those working in the immediate area.

F= could impact workers within the facility but not likely to impact the environment outside the facility.

E= a hazard which could have environmental consequences, e.g. a solvent which could be spilled in large enough quantities to cause environmental pollution outside the facility.

P= a hazard which could have consequences to the off-site public.

INFORMATION TO BE COLLECTED FOR EACH GROUP

DIVISION/SECTION _____ DATE ____ / ____ /95

GROUP _____

CONTRIBUTORS AND ATTENDEES AND THEIR AFFILIATION (collect at meeting)

Fermilab Preliminary Hazard List, cont'd.

HAZARD	CLASS	OFEP	HAZARD	CLASS	OFEP
OXYGEN DEFICIENCY HAZARDS			RADIATION HAZARDS		
cryogenic spills			prompt radiation		
cryogenic gas or liquid leak			radiation check sources		
gaseous argon or other detector gas			residual radiation/activated components		
chemical spills			contamination		
leak of supplied gases			storage/handling of radioactive materials		
toxic gases			radioactive waste		
			mixed waste		
FIRE HAZARDS			radioactive liquids or gasses		
electrical			radioactivated soil		
flammable liquids or gases			depleted uranium		
welding			special nuclear materials		
spark producing tools near combustibles					
spontaneous combustion			MATERIAL HANDLING HAZARDS		
storage of combustibles			cranes & hoists		
special occupancies (NFPA)			fork lift operation		
mobile structures (portakamps)			chemical spills		
transportation (rail, vehicle, fueling)			lifting objects		
special hazardous materials			falling objects		
boiler, furnace, heating systems and appliances			moving objects		
stationary combustion engines			hazardous tools, equipment and machinery		
cigarette smoking			transportation		
			elevators used for hazardous materials		
ELECTRICAL HAZARDS			storage/handling of toxic materials		
low voltage/high current					
exposed 115 V			ENVIRONMENTAL		
high voltage			PCB's		
high power			hazardous waste		
stored energy/capacitors			asbestos		
stored energy/inductors			surface water discharges		
lightning			endangered species issues		
battery			archeological requirements		
			air emissions sources-radioactive		
NONIONIZING RADIATION			air emissions sources-nonradioactive		
lasers			transformer oil (non-PCB)		
radio frequency radiation			solid waste management units		
ultraviolet light			regulated chemical wastes		
intense light sources			groundwater protection		
			ozone depleting substances		
MAGNETIC FIELDS			pesticide application/use		
quench effects			sewer discharges		
fringe fields			offsite radiation exposure		
high magnetic fields			sanitary effluent discharge		
bioelectronic emplants			drinking water quality		

Fermilab Preliminary Hazard List, cont'd.

HAZARD	CLASS	OFEP	HAZARD	CLASS	OFEP
BIOLOGICAL FACTORS			CHEMICAL HAZARDS		
animals			acids, solvents, toxic agents and haz liquids		
insects			heavy metals such as lead		
poison plants			chemical reactions		
bloodborne pathogens			toxicity in smoke or fumes		
bacteria (water)			pesticides		
allergies			welding fumes		
			use of toxic materials		
CONSTRUCTION HAZARDS			carbon monoxide		
heavy equipment			carcinogens		
local community impact			nuisance dusts		
earth cave in/collapse			cutting/burning		
flooding-rain or groundwater			chemical exposure - exceeding PEL		
environmental-air/water pollution					
dewatering hazard			OTHER MECHANICAL HAZARDS		
transportation and logistics			machinery and rotating parts		
materials handling			pressurized tanks, containers and lines		
possibility of hitting utilities			moving vehicles, carts, forklifts		
hand tools			material grinding, cutting, drilling		
high winds			special hand tools-power driven nail guns, etc.		
fall hazards			work with roads and grounds equipment		
scaffolding			means of egress		
ladder			powered platforms		
compressed gas			medical and first aid		
earth moving equipment			machine guarding		
demolition			general environmental control		
earth clearing					
			HAZARDOUS MATERIALS TRANSPORTATION		
THERMAL			loading/unloading		
cold work environments			spills/chemical releases		
cryogenics			emergency response/spill clean-up		
high temperature equipment			fire/explosion		
vacuum pumps			packaging hazardous materials		
battery bank and UPS equipment			bad road conditions (e.g., icy)		
hot work environments			prolonged periods of driving		
wet work environments					
ultraviolet radiation (sun exposure)					
OTHER PERSONNEL HAZARDS					
sharp edges			suspect/counterfeit parts		
vacuum tanks					
traffic hazards					
pinch hazards					
work on wet surfaces					
confined spaces					
lifting/carrying heavy objects					
working at heights					
repetitive motion					
vibrating equipment (tools or surfaces)					
dry environment					
high noise levels					
housekeeping					
icy walking/working surfaces					
slips, trips & falls					
hazards requiring PPE					

Members of the Extended Convened Group and Convened Group

Members of the Extended Convened Group

Larry Coulson: Process Leader
Dave Goodwin: High Energy and Nuclear Physics, ER
Ezra Heitowit: Vice President of URA
Wilmot Hess: Director of High Energy and Nuclear Physics, ER
Cherri Langenfeld: Head Chicago Operations Office
Andrew Mravca: Contracting Officer and Head of DOE-BAO
Ken Stanfield: Deputy Director of Fermilab
Ray Stefanski: Fermilab, Associate Director for Operations Support

Members of the Convened Group

Larry Coulson: Process Leader
Dave Goodwin: High Energy and Nuclear Physics, DOE-ER
Andrew Mravca: Contracting Officer and Head of DOE-BAO
Ray Stefanski: Fermilab, Associate Director for Operations Support

Charter

Department of Energy Fermilab Standards Closure Process 6/14/95 - Revision 1

Objective:

This document outlines the plans and protocols for conducting a pilot of the Department of Energy's Necessary & Sufficient Closure Process (Attachment A) at Fermilab National Accelerator Laboratory (FNAL) in Batavia, Illinois. The result of this pilot will be a set of standards which will serve as the agreed upon basis for providing FNAL with adequate Environment, Safety and Health Protection at the lowest possible cost. This pilot will seek out and emulate compatible industry practices which have been proven successful both in terms of safety performance and cost-effectiveness. This charter has been developed as a partnership effort by the parties to this agreement (see "Responsibilities" below), and is considered to be a living document.

Responsibilities:

Process Leader:

The Process Leader's responsibilities are as defined in Process Elements 1 and 3 of Attachment A. Larry Coulson of FNAL has this responsibility.

Convened Group:

This Group's responsibilities are defined in Process Elements 2 and 3 of Attachment A. This group also has ownership of this charter document. It consists of the following individuals:

Larry Coulson - Process Leader
Ray Stefanski - FNAL Representative
Andy Mravca - DOE-BAO Representative
Dave Goodwin - DOE-ER Representative
Rod McCullum - DOE-CH, Technical Resource

Extended Convened Group:

Provide management support to the Convened Group (including interactions with the Department Standards Committee and other stakeholders). This group has been formed in addition to what is called for by the Process Description because this is a pilot exercise which will receive a greater degree of Department-wide scrutiny than would normally be expected. It consists of the following individuals:

Responsibilities (continued):

All Members of the Convened Group
Ken Stanfield - Deputy Director, FNAL
Cherri Langenfeld - Manager, DOE-CH
Bill Hess - Associate Director, High Energy Physics, DOE-ER
Ezra Heitowit - Vice President, URA

FNAL Steering Committee:

This group provides a mechanism for the Process Leader to obtain internal review and guidance on the mechanics of FNAL participation. It will consist of the following individuals:

Larry Coulson - Process Leader
Bruce Chrisman - Associate Director for Administration
Ray Stefanski - Associate Director for Operations Support
Don Cossairt - Senior Laboratory Safety Officer & Head of ES&H Section
Tim Miller - Deputy Head of the ES&H Section
Hans Jostlein - FNAL Standards Manager
Kathy Williams - Manager, Quality Assurance Office

Identification Team (IT):

This group's responsibilities for identifying and confirming the set of standards are defined in Process Elements 3, 4 and 5 of Attachment A. Its membership will be determined by the Convened Group. The IT will consist of the Process Leader, URA representatives, DOE representatives, sister labs, other parties and subject matter experts as needed.

Agreement Parties:

The agreement parties are the authorities that must approve the Set of Standards. The Extended Convened Group has agreed that the following individuals have approval authority for the FNAL Set of Standards:

Responsible Organization - Fred Bernthal, President, Universities Research Association
Resource Authority - John O'Fallon, Director, High Energy Physics Division, Office of Energy Research
Customer Organization - Andy Mravca, Manager, DOE Batavia Area Office

Action Plan:

Actions Leading to the development of this charter:

1. 2/23/95 The Resource Authority (Bill Hess -ER) transmits a memorandum to the Customer Organization (Andy Mravca - BAO) providing instructions to proceed with a pilot of the Necessary and Sufficient Closure Process.
2. 2/24/95 The Department Standards Committee approves the Necessary & Sufficient Closure Process Description (Attachment A) and the list of proposed pilots (including FNAL).
3. 2/27/95 Kick-off meeting for this pilot held at Fermilab, Representatives of the Department Standards Committee were present to introduce the Necessary & Sufficient Closure Process (Attachment A).
4. 3/10/95 Expanded Convened Group meets to discuss expectations for the pilot project.
5. 3/16/95 FNAL Steering Committee agrees on proposed action plan.
6. 3/20/95 FNAL begins its internal baseline process of acquiring relevant information on FNAL work processes as defined in Process Element 1, [3], A-F of Attachment A.
A Preliminary Hazards List will be used to begin the hazards analysis. The DOE Orders at Fermilab book, the CDF Hazards Analysis, the D0 and Accelerator Safety Assessment Documents, and the Fermilab Hazard Assessment Document will also be available for the hazard analysis.
7. 3/20/95 DOE begins the process of assembling information on its input as called for in Process Element 1, [3], A-F of Attachment A.
8. 3/22/95 The Convened Group holds its first weekly meeting to identify Customer Organization, Responsible Organization, Stakeholders, and Resource Authority. FNAL, DOE-BAO and ER input to the Process Leader in response to Process Element 1, [3], A-F of Attachment A is also discussed. It is agreed to incorporate the FNAL Steering Committee Action Plan along with agreed upon protocols into this charter document.

Action Plan (continued):

8. 3/22/95 (continued)

These meetings will be scheduled at least weekly until the Convened Group responsibilities, as defined in Process Element 2, Process Element 3[1] and Process Element 3[2] are completed.

Actions Planned to complete the task of identifying a Set of Standards:

1. 3/27/95 The Process Leader will set up the Identification Team (IT):
 - The IT will consist of the Process Leader, URA representatives, DOE representatives, sister labs, other parties and subject matter experts as needed. Composition of the IT will be determined by the Convened Group. If necessary, the Process Leader will interview prospective team members.
 - The criteria for membership on the IT will be defined, with the agreement of the Convened Group, and documented.
 - The qualifications of the IT members will be documented.
2. 4/26/95 Under the direction of the Process Leader, Fermilab prepares materials that will be used for the closure process by this date. These materials, which will include an initial hazard analysis, will be presented to a full meeting of the Fermilab ES&H Policy Committee (ESHPAC). A progress report will be submitted to URA.
3. 5/1/95 Materials assembled by the Process Leader and distributed to the IT.
4. 5/8/95 IT meets to begin the process of developing the "final" Necessary and Sufficient Set. A presentation to the Fermilab Director will take place before the Necessary and Sufficient Set is finalized.

Somewhat concurrently, the Agreement Parties will evaluate the Necessary and Sufficient Set for resource requirements. ESHMAP (The Fermilab ES&H Management Plan) would be drawn upon for budget data.

Action Plan (continued):

5. 6/8/95 External Stakeholder involvement (if any) will be scheduled. Appropriate meetings and reviews will be set up with identified stakeholders by the stakeholder liaisons on the IT.
6. 7/12/95 IT presents the NS set to the Convened Group.
7. 7/14/95 NS sent to Agreement Parties for approval. This should complete the closure process if the Approval Authority approves the NS. If not, the IT will meet again to modify NS and resubmit for final approval.

 Upon approval of the Necessary and Sufficient Set of Standards, the FNAL contract will be modified to incorporate them.
8. When needed If there is a need in the future to modify the NS, the Convened Group will be consulted.

Protocols:

Approval of Standards Set:

The Standards Set will be considered approved when it has been agreed to and signed by the following parties in the order listed:

Responsible Organization - Fred Bernthal, President, Universities Research Association, Inc.

Resource Authority - John O'Fallon, Director, High Energy Physics Division, Office of Energy Research

Customer Organization - Andy Mravca, Manager, DOE Batavia Area Office

Instructions to the Identification Team (IT):

The Convened Group will issue a charter letter to the IT outlining its expectations for their conduct of this pilot process.

Scope of Standards Set:

The Necessary and Sufficient Set of Standards will focus on standards in the area of Environment, Safety and Health (ESH). This is defined as any functional area that is addressed in DOE's Guidance Manual for the ESH Management Plan (dated October, 1994). Any decision to include areas beyond ESH will be made by agreement of the Convened Group and included in the final instructions to the Identification Team (IT).

Protocols (continued):

Documentation of Standards Set:

The specific format and level of detail with which the standards set will be documented will be decided by the Identification Team (IT). The Convened Group expects that this document will include, at a minimum, a listing of the standards and a summary discussion sufficient to communicate an understanding of the relationship between the FNAL's work, its associated hazards and the standards selected.

Confirmation of Standards Set:

Once the Identification Team (IT) has completed assembling the set of standards, it will be expected to hold a final Team meeting(s), with all members present, to confirm that the IT believes that the set as a whole is adequate. Once that is done, they shall present the set first to FNAL for concurrence (see Attachment B for details) and then to the Convened Group. The Convened Group will assemble a panel of subject matter experts who will be expected to orally challenge the set and the IT will be called upon to defend it (see Attachment C for details). Once the IT has successfully defended the set, it will be considered confirmed and the Convened Group will recommend it for approval.

Interactions between Convened Group and Identification Team (IT):

Throughout this process, the Process Leader will act as the liaison between the IT and the Convened Group.

Effort Tracking:

The Process Leader will be responsible for preparing an estimate of the costs incurred by the Identification Team (IT) in preparing this set sufficient to facilitate an evaluation of the impact of this pilot exercise.

Stakeholder Liaisons:

In order to keep the Identification Team (IT) to a workable size, it will not be possible to include all stakeholders on the team. Therefore, liaison relationships will be established between specific members of the IT and appropriate stakeholders. Formal communications between the IT liaisons and their assigned stakeholders will be required and documented.

Protocols (continued):

Consensus:

The Identification Team (IT) will need to establish its own protocols for reaching consensus on the set of standards. If at any point, they are unable to reach consensus on any issue, they may bring this issue for resolution to the Convened Group.

Signature
Convened Group

Larry Coulson, Process Leader

Ray Stefanski, FNAL

Dave Goodwin, DOE-ER, High Energy Physics

Andy Mravca, DOE-BAO

Attachment A: Department of Energy's Necessary & Sufficient Closure Process

Attachment B: Fermilab Protocol Confirmation of the Draft Set

Attachment C: Convened Group Protocol Confirmation of the Draft Set

Charter

Fermilab Standards Closure Process

Attachment B

Fermilab Protocol Confirmation of the Draft Set

6/7/95

- When the Identification Team releases a draft of the N&S Set of Standards a copy will be sent to URA, ESHPAC members, and division/section heads. Instructions will go to division/section heads to orchestrate a review with appropriate personnel within their organizations and prepare written comments to go with their ESHPAC representative to an ESHPAC meeting in about 3 days. Backup information, such as the issue forms, will be provided on a server.
- At an ESHPAC meeting the draft set and division/section comments will be discussed. N&S Identification Team Focus Group leaders will be present to provide explanations and help resolve issues.
- A few days later there will be a meeting of the ESHPAC with division/section heads and the Director. The set and unresolved comments will be discussed. N&S Identification Team Focus Group leaders will be present to provide explanations and help resolve issues.
- The Lab's comments will be prepared from the minutes of the above meeting. The comments will be sent back to the Identification Team.

Charter

Fermilab Standards Closure Process

Attachment C

Convened Group Protocol Confirmation of the Draft Set

6/7/95

- A Confirmation Panel of about 5 persons will be assembled to assist the Convened Group in confirmation of the draft set of standards. The Process Leader will select the Panel from a list of names approved by the Convened Group. The candidates will be peers from other Laboratories. In most cases these will be the ES&H Directors, their deputies, or higher ranking personnel.
- The Draft Set will be sent to the Convened Group and Confirmation Panel for their review prior to the confirmation meeting. Members of Extended Convened Group, observers and technical resource people will also be invited. Technical resource people for this meeting will be persons expert in the N&S Process. Protocol for this meeting and the list of technical resource people will be developed by the Process Leader in consultation with the Convened Group.
- The Convened Group will meet, if necessary, to resolve issues presented but not resolved at the Convened Group confirmation meeting. This is the final step in the confirmation process.
- At the end of the confirmation process the set will be considered confirmed and ready for signature by the Agreement Parties.

**FERMILAB PILOT NECESSARY AND SUFFICIENT PROCESS
IDENTIFICATION TEAM CHARTER
APRIL 20, 1995**

Charge to the TEAM

Fermilab is conducting a pilot program to develop a set of ES&H standards which is both necessary and sufficient to protect the workers, the public, and the environment. A necessary and sufficient set of standards is one that (a) meets applicable laws and regulations, and (b) provides adequate protection at the lowest possible cost.

The format being followed for this pilot is The Department of Energy Closure Process for Necessary and Sufficient Sets of Standards, dated February 24, 1995 (the Process). The Process calls for the creation of a Convened Group which represents the agreement parties (Fermilab, DOE-ER, and DOE-BAO). The Convened Group charts the Identification Team (Team). The Team is asked to identify a necessary and sufficient set of standards (Set) using the guidance given in the Process and direction from the Convened Group. The Set will serve as the agreed upon basis for providing FNAL with adequate Environment, Safety and Health Protection at the lowest possible cost.

The responsibilities of the Team are as described in the Process Elements 3, 4, and 5 of the Process. Primarily, the Team is asked to:

- a. Review information presented concerning the goals, work processes, hazards, stakeholders' concerns, etc.;
- b. Request more information if needed;
- c. Assume compliance with applicable laws and regulations (OSHA, EPA, etc.);
- d. Determine what standards are needed in addition to the applicable laws and regulations to meet needs of the work and goals;
- e. The Convened Group will ask various members of the Team to be liaison with Stakeholders. Generally, the liaison responsibilities are to represent the interests of the Stakeholder in the deliberations of the Team. Specific responsibilities will be defined in writing for each assignment;
- f. Present the Set to the Fermilab Director and/or his delegates; and,
- g. In addition, the Team will be asked to defend the Set to the Convened Group as a confirmation process.

The Team is asked to consider the following guidance:

- No justification is required for any DOE Order(s) not included.
- Applicable Federal, State, and local laws shall be included.
- The Set may include the following four kinds of standards:
 1. External standards required by law (OSHA, EPA, etc.).
 2. External standards not required by law (ASME, ANSI, etc.).
 3. DOE regulated standards (10CFR835, etc.) and any other DOE standards (Orders, Tech. Standards, Guides, etc.) that the Identification Team judges as required for the set to be sufficient.
 4. Fermilab standards (Laser Safety, Accelerator Safety, Oxygen Deficiency Hazards, etc.). These are standards which are developed, approved and maintained by Fermilab.

Issue Resolution

Issues not resolved by the Team will be sent to the Convened Group for resolution. The Team should also seek clarification and guidance from the Convened Group as necessary.

Team Membership and Qualifications

The Team Leader will be the Process Leader, Larry Coulson. About twelve other members will be selected based on the protocols of the Convened Group, using the following process.

Biographies will be solicited from candidates with substantive experience with large research accelerators. Bio statements should summarize academic and work experience, external regulatory background, standards experience, publication history, and availability during the period May 1 through June 30, 1995. These statements will be evaluated against the following 4 ranking factors:

1. Knowledge of large research accelerators.
2. Knowledge of 1 or more of the 6 core functional areas (see below).
3. Demonstrated ability to function in a team environment.

4. Other experience/qualifications described in the Bio which are judged to be of exceptional value to the process.

The process leader will solicit candidate members, the convened group will then make selections based on these factors. Interviews may be conducted.

ES&H Functional Areas

The ES&H functional areas are distilled from the DOE's Guidance Manual for the ES&H Management Plan (dated October, 1994) as:

1. Fire Protection.
2. Radiation Protection.
3. Occupational Safety (including industrial safety, industrial hygiene, and occupational medicine).
4. Emergency Preparedness.
5. Management & Oversight.
6. Environmental Protection (including packaging and transportation, environmental restoration, decontamination and decommissioning, and waste management).

Technical Advisors

The Team may draw on Subject Matter Experts (SMEs) to supplement the Team expertise. It is left to the Team to set criteria and protocols for SMEs use. The Process Leader will ensure that a SME is available to provide assistance with legal issues.

Observers

A total of not more than two observers may be permitted at the discretion of the Team Chair. Convened Group members may not be observers.

Members of the Identification Team and Confirmation Panel

Members of the Identification Team

Larry Coulson, Process Leader
Jim Boyce, CEBAF
Jon Cooper, DOE-BAO
Don Cossairt, Fermilab
John Elais, Fermilab
Nancy Grossman, Fermilab
David Gordon, SLAC
Tom McDermott, DOE-CH
Tim Miller, Fermilab
Steve Musolino, BNL
Paul Neeson, DOE-CH
Linc Read, Fermilab
Mary Hall Ross, SLAC
Tim Tess, ANL
Rod Walton, Fermilab

Members of the Confirmation Panel

Steve Gray, Safety Director, CESR, Cornell
Beverly Hartline, Project Manager, CEBAF
Ken Kase, ES&H Manager, SLAC
David McGraw, ES&H Manager, LBNL
Otto White, Deputy ES&H Manager, BNL
Robert Wynveen, ES&H Manager ANL

Identification Team Qualification Summary

There are 15 members counting the Process Leader. Of these:

- 14 have work experience at a large research accelerator,
- 12 have had full time ES&H responsibilities at a large research accelerator, and
- 6 have had full time research experience at a large accelerator.

The IT members experience represent:

- 169 years of experience at a large research accelerator,
- 117 years of experience at Fermilab,
- 84 years of experience with ES&H at a large research accelerator, and
- 7 years of external regulatory experience (EPA and OSHA).

The education of the IT members:

- 9 Ph.D. degrees (physics, biology, health physics, and industrial hygiene),
- 5 MS degrees (occupational safety, physics, environmental science, public administration, and geology), and
- 1 BS degree (fire protection engineering).

Final List of 172 Issues

- 001. Bio - animals
- 002. Bio - bacteria (water)
- 003. Bio - bloodborne pathogens
- 004. Bio - insects
- 005. Bio - plants
- 006. Chem - acids, solvents, toxic agents and haz. liquids
- 007. Chem - carbon monoxide
- 008. Chem - carcinogens
- 009. Chem - chemical exposures exceeding PEL.
- 010. Chem - chemical reactions
- 011. Chem - cutting and burning
- 012. Chem - heavy metals such as lead
- 013. Chem - nuisance dusts
- 014. Chem - pesticides
- 015. Chem - toxicity in smoke or fumes
- 016. Chem - use of toxic materials
- 017. Chem - welding fumes
- 018. Construction - compressed gasses
- 019. Construction - demolition
- 020. Construction - dewatering hazard
- 021. Construction - earth cave-in and collapse
- 022. Construction - earth moving equipment
- 024. Construction - earth clearing
- 025. Construction - fall hazards
- 027. Construction - hand tools
- 028. Construction - heavy equipment
- 029. Construction - high winds
- 030. Construction - ladder
- 032. Construction - materials handling
- 033. Construction - possibility of hitting utilities
- 034. Construction - scaffolding
- 035. Construction - transportation
- 036. Electricity - battery
- 037. Electricity - exposed conductors / >50 volts
- 038. Electricity - high voltage

- 039. Electricity - high power
- 040. Electricity - lightning
- 041. Electricity - high current conductors / <50 volts
- 042. Electricity - stored energy / capacitors
- 043. Electricity - stored energy / inductors
- 044. Env - air emissions / nonrad
- 045. Env - air emissions / rad
- 046. Env - cultural resources
- 047. Env - asbestos
- 048. Env - drinking water quality
- 049. Env - endangered species
- 050. Env - groundwater protection
- 051. Env - hazardous waste
- 052. Env - offsite radiation protection / penetrating
- 053. Env - ozone depleting substances
- 054. Env - PCBs
- 055. Env - pesticide application and use
- 056. Env - regulated chemical waste / non-hazardous
- 058. Env - sanitary and sewer discharges
- 059. Env - solid waste management units and inactive waste sites
- 060. Env - surface water
- 061. Env - transformer oil / non-PCB
- 062. Fire - boiler, heating systems, and (commercial) appliances
- 063. Fire - cigarette smoking
- 064. Fire - electrical
- 065. Fire - flammable liquids and gases
- 066. Fire - mobile structures
- 067. Fire - special hazardous materials
- 067B. Fire - hydrogen targets
- 068. Fire - special occupancies / accelerator and beam line enclosures
- 069. Fire - spontaneous combustion
- 070. Fire - stationary combustion engines
- 071. Fire - storage of combustibles
- 072. Fire - transportation / rail, vehicle, and fueling
- 073. Fire - welding near combustibles
- 074. Fire - spark producing tools near combustibles
- 075A. HazMat transport - bad road conditions / offsite
- 075B. HazMat transport - bad road conditions / onsite

- 076A. HazMat transport - emergency response and spill clean up / offsite
- 076B. HazMat transport - emergency response and spill cleanup / onsite
- 077A. HazMat transport - fire and explosion / offsite
- 077B. HazMat transport - fire/explosion / onsite
- 078A. HazMat transport - loading and unloading / offsite
- 078B. HazMat transport - loading and unloading / onsite
- 079A. HazMat transport - packaging hazardous materials / offsite
- 079B. HazMat transport - packaging hazardous materials / onsite
- 079C. HazMat transport - transportation of radioactive materials
- 080A. HazMat transport - prolonged periods of driving / offsite
- 080B. HazMat transport - prolonged periods of driving / onsite
- 081A. HazMat transport - spills and chemical releases /offsite
- 081B. HazMat transport - spills and chemical Releases / onsite
- 081C. Hazardous material transport - spills and chemical releases
- 082. Magnetic fields - bioelectric implants
- 083. Magnetic fields - fringe fields
- 084. Magnetic fields - high magnetic fields
- 085. Magnetic fields - quench effects
- 086. Material handling - chemical spills
- 087. Material handling - cranes and hoists
- 088. Material handling - elevators used for hazardous material
- 089. Material handling - falling objects
- 090. Material handling - forklift operation
- 091. Material handling - hazardous tools equipment and machinery
- 092. Material handling - lifting objects
- 093. Material handling - moving objects
- 094. Material handling - storage and handling of toxic materials.
- 095A. Material handling - transportation / offsite
- 095B. Material handling - transportation / onsite
- 096. NIR - intense light sources
- 097. NIR - lasers
- 098. NIR - radiofrequency radiation
- 099. NIR - ultraviolet light
- 101. ODH - cryogenic gas or liquid leaks
- 102. ODH - cryogenic spills
- 103. ODH - gaseous argon or other detector gas
- 104. ODH - leak of supplied gas
- 105B. ODH - mechanical refrigeration systems

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- 106. Other mechanical hazards - general environmental control
 - 107. Other mechanical hazards - machine guarding
 - 108. Other mechanical hazards - machinery and rotating parts
 - 109A. Other mechanical hazards - medical and first aid
blood borne pathogens, lead, noise, asbestos, and respiratory protection
 - 109B. Surveillance - tuberculosis
 - 110. Other mechanical hazards - powered platforms
 - 111A. Other mechanical hazards - pressurized tanks and containers
 - 111B. Other mechanical hazards - pressurized lines and piping systems
 - 112. Other mechanical hazards - material grinding, cutting, and drilling
 - 113. Other mechanical hazards (also fire) - means of egress
 - 114. Other mechanical hazards - moving vehicles, carts, and forklifts
 - 115. Other mechanical hazards - special hand tools and power driven nail guns, etc.
 - 116. Other mechanical hazards - work with roads and grounds equipment
 - 117. Other personal hazards - confined space
 - 119. Other personal hazards - hazards requiring PPE
 - 120. Other personal hazards - high noise levels
 - 121. Other personnel hazards - housekeeping
 - 122. Other personnel hazards - ice/walking surfaces
 - 123. Other personal hazards - lifting and carrying heavy objects
 - 124. Other mechanical hazards - pinch points
 - 125. Other personal hazards - repetitive motion
 - 126. Other personal hazards - sharp edges
 - 127. Other personnel hazards - slips, trips & falls
 - 128. Other personnel hazards - traffic hazards
 - 129. Other personnel hazards - vacuum tanks
 - 130. Other personal hazards - vibration
 - 131. Other personnel hazards - work on wet surface
 - 132. Other personnel hazards - working at heights
 - 133. Radiation - radioactive contamination
 - 134 /142. Radiation - special nuclear materials (SNM) and nuclear materials
 - 135. Radiation - mixed waste
 - 136. Radiation - prompt radiation
 - 137. Radiation - radioactive sources
 - 138. Radiation - radioactivated soil
 - 139. Radiation - radioactive liquids and gases
 - 140. Radiation - radioactive waste
 - 141A. Radiation - residual contamination

- 141B. Radiation - residual activity
- 143. Radiation - storage and handling of radioactive materials
- 144. Thermal - battery bank and UPS equipment
- 145. Thermal - cold work environments
- 146. Thermal - cryogenics
- 147. Thermal - high temperature equipment
- 148. Thermal - hot work environments
- 149. Thermal - ultraviolet radiation / sun exposure
- 151. Thermal - wet work environments
- 152. Emergency preparedness - severe weather
- 153. Emergency preparedness - safeguards and security
- 154. Emergency preparedness - generic
- 155. Env - underground storage tanks
- 156. Other mechanical hazards - aviation
- 159. Emergency preparedness - hazardous materials
- 160. Emergency preparedness - toxicity in smoke or fumes
- 161. Env - general environmental protection planning
- 163. Occupational safety administrative requirements
- 164. Occurrence Investigation and Reporting
- 165. Radiation - radiological emergency response (see 154.)
- 166. Radiation - radiological training
- 167. Radiation - monitoring and measurement of radiation
- 168. Radiation - record keeping in occupational radiation protection
- 169. Radiation - exposure control
- 170. Radiation - QA in occupational radiation protection
- 171. Safety analysis and documentation
- 172. Fire - emergency responder safety

1. Issue(s) **Issue origin** ☐ Hazard analysis ☐ Identification Team

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Focus group	<input type="checkbox"/> Emergency Management	<input type="checkbox"/> Fire Protection	<input type="checkbox"/> Occupational Safety
	<input type="checkbox"/> Environmental Protection	<input type="checkbox"/> Management & Oversight	<input type="checkbox"/> Radiation Protection

2. Is there a necessary standard which applies to this issue? ☐ YES ☐ NO

If yes, continue; otherwise skip to 6.

3. Necessary standard(s)

4. Are there any aspects of these necessary standard(s) which do not add value? ☐ YES ☐ NO
If yes, continue; otherwise skip to 6.

5. Description of non-value added aspects of necessary standard(s).

6. Is the level of risk associated with the issue(s) consistent with management performance goals assuming compliance with applicable necessary standards? ☐ YES ☐ NO

If no continue; otherwise skip to 12.

7. Is there a non-required external standard which applies to this issue? ☐ YES ☐ NO
If yes, continue; otherwise skip to 10.

FERMILAB IDENTIFICATION TEAM DOCUMENTATION

8. External sufficient standard citation

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9. Is the level of risk associated with the issue(s) consistent with management performance goals assuming compliance with the above (non-statutory) external standard?

☐ YES ☐ NO

If no continue; otherwise skip to 12.

10. Is an internal standard required to attain a level of risk consistent with management performance goals?

☐ YES ☐ NO

11. Describe nature and status of internal sufficient standard.

--

12. Describe how the levels of risk and cost are consistent with management performance goals.

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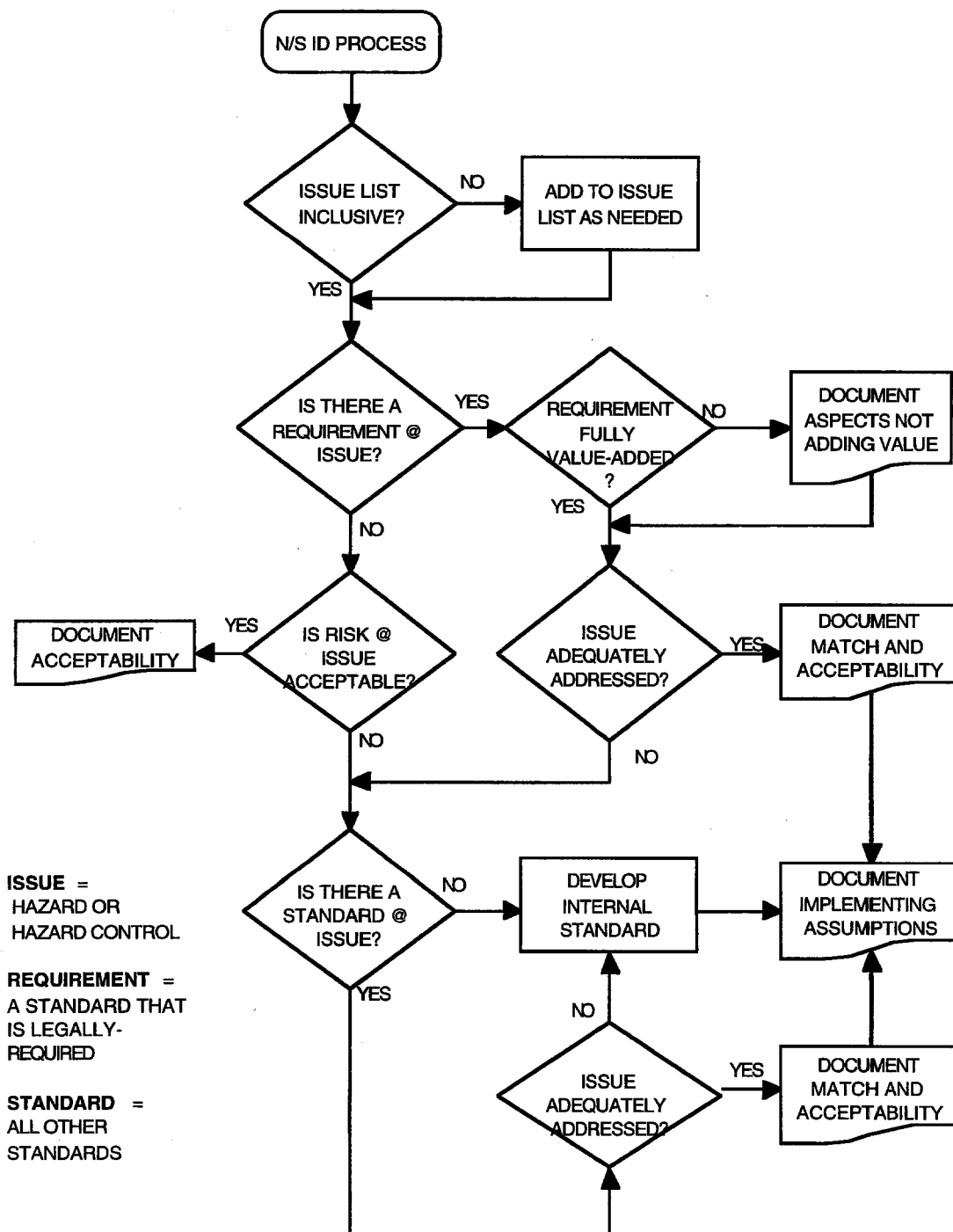
13. Pick the basic implementing assumption from the list.

<input type="checkbox"/> Major positive impact	<input type="checkbox"/> Minor negative impact
<input type="checkbox"/> Minor positive impact	<input type="checkbox"/> Major negative impact
<input type="checkbox"/> No net impact	

14. Describe the nature and status of implementation including cost-effectiveness.

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FERMILAB N&S STANDARDS IDENTIFICATION PROCESS



FERMILAB IDENTIFICATION TEAM DOCUMENTATION

1. Issue(s) **Issue origin** ☒ Hazard analysis ☐ Identification Team

001. Bio - animals
004. Bio - insects
005. Bio - plants

Focus group ☐ Emergency Management ☐ Fire Protection ☒ Occupational Safety
☐ Environmental Protection ☐ Management & Oversight ☐ Radiation Protection

2. Is there a necessary standard which applies to this issue? ☒ YES ☐ NO

If yes, continue; otherwise skip to 6.

3. Necessary standard(s)

29 CFR 1926.21(b)(4)
29 CFR 1910.132

4. Are there any aspects of these necessary standard(s) which do not add value? ☐ YES ☒ NO

If yes, continue; otherwise skip to 6.

5. Description of non-value added aspects of necessary standard(s).

6. Is the level of risk associated with the issue(s) consistent with management performance goals assuming compliance with applicable necessary standards? ☒ YES ☐ NO

If no continue; otherwise skip to 12.

7. Is there a non-required external standard which applies to this issue? ☐ YES ☐ NO

If yes, continue; otherwise skip to 10.

FERMILAB IDENTIFICATION TEAM DOCUMENTATION

8. External sufficient standard citation

9. Is the level of risk associated with the issue(s) consistent with management performance goals assuming compliance with the above (non-statutory) external standard?

☐ YES ☐ NO

If no continue; otherwise skip to 12.

10. Is an internal standard required to attain a level of risk consistent with management performance goals?

☐ YES ☐ NO

11. Describe nature and status of internal sufficient standard.

12. Describe how the levels of risk and cost are consistent with management performance goals.

Past adherence to the statutory requirements in #3 has resulted in levels of ES&H and cost performance that are consistent with management goals including the use of industrial standards for industrial issues.

13. Pick the basic implementing assumption from the list.

☐ Major positive impact ☐ Minor negative impact
☐ Minor positive impact ☐ Major negative impact
☒ No net impact

14. Describe the nature and status of implementation including cost-effectiveness.

Procedures and information regarding environmental biological hazards are provided in Chapter 5071 of the Fermilab ES&H Manual. Training is also conducted on an as-needed basis for persons who routinely work out-of-doors. Experience has demonstrated that this program is both successful and cost-effective.

FERMILAB IDENTIFICATION TEAM DOCUMENTATION

1. **Issue(s)** **Issue origin** ☒ Hazard analysis ☐ Identification Team

002. Bio - bacteria (water)
151. Thermal - wet work environments

Focus group ☐ Emergency Management ☐ Fire Protection ☒ Occupational Safety
☐ Environmental Protection ☐ Management & Oversight ☐ Radiation Protection

2. **Is there a necessary standard which applies to this issue?** ☒ YES ☐ NO

If yes, continue; otherwise skip to 6.

3. **Necessary standard(s)**

77 IAC 900
29 CFR 1910.141
29 CFR 1926.27
29 CFR 1926.51

4. **Are there any aspects of these necessary standard(s) which do not add value?** ☐ YES ☒ NO

If yes, continue; otherwise skip to 6.

5. **Description of non-value added aspects of necessary standard(s).**

6. **Is the level of risk associated with the issue(s) consistent with management performance goals assuming compliance with applicable necessary standards?** ☒ YES ☐ NO

If no continue; otherwise skip to 12.

7. **Is there a non-required external standard which applies to this issue?** ☐ YES ☐ NO

If yes, continue; otherwise skip to 10.

FERMILAB IDENTIFICATION TEAM DOCUMENTATION

8. External sufficient standard citation

9. Is the level of risk associated with the issue(s) consistent with management performance goals assuming compliance with the above (non-statutory) external standard?

☐ YES ☐ NO

If no continue; otherwise skip to 12.

10. Is an internal standard required to attain a level of risk consistent with management performance goals?

☐ YES ☐ NO

11. Describe nature and status of internal sufficient standard.

12. Describe how the levels of risk and cost are consistent with management performance goals.

Past adherence to the statutory requirements in #3 has resulted in levels of ES&H and cost performance that are consistent with management goals including the use of industrial standards for industrial issues.

13. Pick the basic implementing assumption from the list.

☐ Major positive impact ☐ Minor negative impact
☐ Minor positive impact ☐ Major negative impact
☒ No net impact

14. Describe the nature and status of implementation including cost-effectiveness.

Requirements for maintaining the main site water supplies are provided in Fermilab ES&H Manual Chapter 8050. Backflow prevention procedures for domestic water supplies is provided in Chapter 8051. Issue 151 (Thermal - wet work environment) was combined with 002 (Bio - bacteria) as a "best fit" since a specific standard could not be identified for the former. Experience has demonstrated that this program is both successful and cost-effective.

FERMILAB IDENTIFICATION TEAM DOCUMENTATION

1. Issue(s) Issue origin ☒ Hazard analysis ☐ Identification Team

003. Bio - bloodborne pathogens

Focus group ☐ Emergency Management ☐ Fire Protection ☒ Occupational Safety
☐ Environmental Protection ☐ Management & Oversight ☐ Radiation Protection

2. Is there a necessary standard which applies to this issue? ☒ YES ☐ NO

If yes, continue; otherwise skip to 6.

3. Necessary standard(s)

29 CFR 1910.1030

4. Are there any aspects of these necessary standard(s) which do not add value? ☐ YES ☒ NO

If yes, continue; otherwise skip to 6.

5. Description of non-value added aspects of necessary standard(s).

6. Is the level of risk associated with the issue(s) consistent with management performance goals assuming compliance with applicable necessary standards? ☒ YES ☐ NO

If no continue; otherwise skip to 12.

7. Is there a non-required external standard which applies to this issue? ☐ YES ☐ NO

If yes, continue; otherwise skip to 10.

FERMILAB IDENTIFICATION TEAM DOCUMENTATION

8. External sufficient standard citation

9. Is the level of risk associated with the issue(s) consistent with management performance goals assuming compliance with the above (non-statutory) external standard?

☐ YES ☐ NO

If no continue; otherwise skip to 12.

10. Is an internal standard required to attain a level of risk consistent with management performance goals?

☐ YES ☐ NO

11. Describe nature and status of internal sufficient standard.

12. Describe how the levels of risk and cost are consistent with management performance goals.

Past adherence to the statutory requirements in #3 has resulted in levels of ES&H and cost performance that are consistent with management goals including the use of industrial standards for industrial issues.

13. Pick the basic implementing assumption from the list.

☐ Major positive impact ☐ Minor negative impact
☐ Minor positive impact ☐ Major negative impact
☒ No net impact

14. Describe the nature and status of implementation including cost-effectiveness.

The statutory requirement in #3 is implemented through Chapter 5072 of the Fermilab ES&H Manual. Experience has demonstrated that this program is both successful and cost-effective.

FERMILAB IDENTIFICATION TEAM DOCUMENTATION

1. Issue(s) Issue origin ☒ Hazard analysis ☐ Identification Team

006. Chem - acids, solvents, toxic agents and haz. liquids
009. Chem - chemical exposures exceeding PEL.
013. Chem - nuisance dusts
016. Chem - use of toxic materials

Focus group ☐ Emergency Management ☐ Fire Protection ☒ Occupational Safety
☐ Environmental Protection ☐ Management & Oversight ☐ Radiation Protection

2. Is there a necessary standard which applies to this issue? ☒ YES ☐ NO

If yes, continue; otherwise skip to 6.

3. Necessary standard(s)

29 CFR 1910.1200
29 CFR 1910.1000
40 CFR 355
40 CFR 370
40 CFR 372

4. Are there any aspects of these necessary standard(s) which do not add value? ☐ YES ☒ NO

If yes, continue; otherwise skip to 6.

5. Description of non-value added aspects of necessary standard(s).

6. Is the level of risk associated with the issue(s) consistent with management performance goals assuming compliance with applicable necessary standards? ☒ YES ☐ NO

If no continue; otherwise skip to 12.

7. Is there a non-required external standard which applies to this issue? ☐ YES ☐ NO

If yes, continue; otherwise skip to 10.

FERMILAB IDENTIFICATION TEAM DOCUMENTATION

8. External sufficient standard citation

9. Is the level of risk associated with the issue(s) consistent with management performance goals assuming compliance with the above (non-statutory) external standard?

☐ YES ☐ NO

If no continue; otherwise skip to 12.

10. Is an internal standard required to attain a level of risk consistent with management performance goals?

☐ YES ☐ NO

11. Describe nature and status of internal sufficient standard.

12. Describe how the levels of risk and cost are consistent with management performance goals.

Past adherence to the statutory requirements in #3 has resulted in levels of ES&H and cost performance that are consistent with management goals including the use of industrial standards for industrial issues.

13. Pick the basic implementing assumption from the list.

☐ Major positive impact ☐ Minor negative impact
☐ Minor positive impact ☐ Major negative impact
☒ No net impact

14. Describe the nature and status of implementation including cost-effectiveness.

The statutory requirements in #3 are implemented through a variety of ES&H Manual Chapters including 5051 (HazCom) and the 5052 Special Toxic Hazards series. Experience has demonstrated that this program is both successful and cost-effective.

FERMILAB IDENTIFICATION TEAM DOCUMENTATION

1. Issue(s) Issue origin ☒ Hazard analysis ☐ Identification Team

007. Chem - carbon monoxide

Focus group ☐ Emergency Management ☐ Fire Protection ☒ Occupational Safety
☐ Environmental Protection ☐ Management & Oversight ☐ Radiation Protection

2. Is there a necessary standard which applies to this issue? ☒ YES ☐ NO

If yes, continue; otherwise skip to 6.

3. Necessary standard(s)

29 CFR 1910.1200
29 CFR 1910.146
29 CFR 1910.1000

4. Are there any aspects of these necessary standard(s) which do not add value? ☐ YES ☒ NO

If yes, continue; otherwise skip to 6.

5. Description of non-value added aspects of necessary standard(s).

6. Is the level of risk associated with the issue(s) consistent with management performance goals assuming compliance with applicable necessary standards? ☒ YES ☐ NO

If no continue; otherwise skip to 12.

7. Is there a non-required external standard which applies to this issue? ☐ YES ☐ NO

If yes, continue; otherwise skip to 10.

FERMILAB IDENTIFICATION TEAM DOCUMENTATION

8. External sufficient standard citation

9. Is the level of risk associated with the issue(s) consistent with management performance goals assuming compliance with the above (non-statutory) external standard?

☐ YES ☐ NO

If no continue; otherwise skip to 12.

10. Is an internal standard required to attain a level of risk consistent with management performance goals?

☐ YES ☐ NO

11. Describe nature and status of internal sufficient standard.

12. Describe how the levels of risk and cost are consistent with management performance goals.

Past adherence to the statutory requirements in #3 has resulted in levels of ES&H and cost performance that are consistent with management goals including the use of industrial standards for industrial issues.

13. Pick the basic implementing assumption from the list.

☐ Major positive impact ☐ Minor negative impact
☐ Minor positive impact ☐ Major negative impact
☒ No net impact

14. Describe the nature and status of implementation including cost-effectiveness.

Carbon monoxide exposures occur in association with combustion; primarily engines and heaters. They are handled in accordance with good industrial hygiene practices including activity review, training, and monitoring. ES&H Manual Chapter 5051 (HazCom) and 5063 (Confined spaces) help to control exposures. Experience has demonstrated that this program is both successful and cost-effective.

FERMILAB IDENTIFICATION TEAM DOCUMENTATION

Issue origin ☒ Hazard analysis ☐ Identification Team

1. Issue(s)

008. Chem - carcinogens

Focus group

☐ Emergency Management ☐ Fire Protection ☒ Occupational Safety
☐ Environmental Protection ☐ Management & Oversight ☐ Radiation Protection

2. Is there a necessary standard which applies to this issue?

☒ YES ☐ NO

If yes, continue; otherwise skip to 6.

3. Necessary standard(s)

29 CFR 1910.1000-1200

4. Are there any aspects of these necessary standard(s) which do not add value?

☐ YES ☒ NO

If yes, continue; otherwise skip to 6.

5. Description of non-value added aspects of necessary standard(s).

6. Is the level of risk associated with the issue(s) consistent with management performance goals assuming compliance with applicable necessary standards?

☒ YES ☐ NO

If no continue; otherwise skip to 12.

7. Is there a non-required external standard which applies to this issue?

☐ YES ☐ NO

If yes, continue; otherwise skip to 10.

FERMILAB IDENTIFICATION TEAM DOCUMENTATION

8. External sufficient standard citation

9. Is the level of risk associated with the issue(s) consistent with management performance goals assuming compliance with the above (non-statutory) external standard?

☐ YES ☐ NO

If no continue; otherwise skip to 12.

10. Is an internal standard required to attain a level of risk consistent with management performance goals?

☐ YES ☐ NO

11. Describe nature and status of internal sufficient standard.

12. Describe how the levels of risk and cost are consistent with management performance goals.

Past adherence to the statutory requirements in #3 has resulted in levels of ES&H and cost performance that are consistent with management goals including the use of industrial standards for industrial issues.

13. Pick the basic implementing assumption from the list.

☐ Major positive impact ☐ Minor negative impact
☐ Minor positive impact ☐ Major negative impact
☒ No net impact

14. Describe the nature and status of implementation including cost-effectiveness.

In general, chemical carcinogens are a minor concern at Fermilab. The associated program is contained in Chapter 5052.1 of the ES&H Manual. Experience has demonstrated that this program is both successful and cost-effective.

FERMILAB IDENTIFICATION TEAM DOCUMENTATION

Issue origin ☒ Hazard analysis ☐ Identification Team

1. Issue(s)

010. Chem - chemical reactions

Focus group ☐ Emergency Management ☐ Fire Protection ☒ Occupational Safety
☐ Environmental Protection ☐ Management & Oversight ☐ Radiation Protection

2. Is there a necessary standard which applies to this issue?

☒ YES ☐ NO

If yes, continue; otherwise skip to 6.

3. Necessary standard(s)

29 CFR 1910.1200
40 CFR 724.277

4. Are there any aspects of these necessary standard(s) which do not add value?

☐ YES ☒ NO

If yes, continue; otherwise skip to 6.

5. Description of non-value added aspects of necessary standard(s).

6. Is the level of risk associated with the issue(s) consistent with management performance goals assuming compliance with applicable necessary standards?

☒ YES ☐ NO

If no continue; otherwise skip to 12.

7. Is there a non-required external standard which applies to this issue?

☐ YES ☐ NO

If yes, continue; otherwise skip to 10.

FERMILAB IDENTIFICATION TEAM DOCUMENTATION

8. External sufficient standard citation

9. Is the level of risk associated with the issue(s) consistent with management performance goals assuming compliance with the above (non-statutory) external standard?

☐ YES ☐ NO

If no continue; otherwise skip to 12.

10. Is an internal standard required to attain a level of risk consistent with management performance goals?

☐ YES ☐ NO

11. Describe nature and status of internal sufficient standard.

12. Describe how the levels of risk and cost are consistent with management performance goals.

Past adherence to the statutory requirements in #3 has resulted in levels of ES&H and cost performance that are consistent with management goals including the use of industrial standards for industrial issues.

13. Pick the basic implementing assumption from the list.

☐ Major positive impact ☐ Minor negative impact
☐ Minor positive impact ☐ Major negative impact
☒ No net impact

14. Describe the nature and status of implementation including cost-effectiveness.

In general, chemical reactions are a minor concern at Fermilab. Chapter 5051 of the ES&H Manual (HazCom) includes this issue. Experience has demonstrated that this program is both successful and cost-effective.

FERMILAB IDENTIFICATION TEAM DOCUMENTATION

1. Issue(s) Issue origin ☒ Hazard analysis ☐ Identification Team

011. Chem - cutting and burning
015. Chem - toxicity in smoke or fumes
017. Chem - welding fumes

Focus group ☐ Emergency Management ☐ Fire Protection ☒ Occupational Safety
☐ Environmental Protection ☐ Management & Oversight ☐ Radiation Protection

2. Is there a necessary standard which applies to this issue? ☒ YES ☐ NO
If yes, continue; otherwise skip to 6.

3. Necessary standard(s)

29 CFR 1910.1200
29 CFR 1910.1000
29 CFR 1910.146
29 CFR 1910.252-257

4. Are there any aspects of these necessary standard(s) which do not add value? ☐ YES ☒ NO
If yes, continue; otherwise skip to 6.

5. Description of non-value added aspects of necessary standard(s).

6. Is the level of risk associated with the issue(s) consistent with management performance goals assuming compliance with applicable necessary standards? ☒ YES ☐ NO
If no continue; otherwise skip to 12.

7. Is there a non-required external standard which applies to this issue? ☐ YES ☐ NO
If yes, continue; otherwise skip to 10.

FERMILAB IDENTIFICATION TEAM DOCUMENTATION

8. External sufficient standard citation

9. Is the level of risk associated with the issue(s) consistent with management performance goals assuming compliance with the above (non-statutory) external standard?

☐ YES ☐ NO

If no continue; otherwise skip to 12.

10. Is an internal standard required to attain a level of risk consistent with management performance goals?

☐ YES ☐ NO

11. Describe nature and status of internal sufficient standard.

12. Describe how the levels of risk and cost are consistent with management performance goals.

Past adherence to the statutory requirements in #3 has resulted in levels of ES&H and cost performance that are consistent with management goals including the use of industrial standards for industrial issues.

13. Pick the basic implementing assumption from the list.

☐ Major positive impact ☐ Minor negative impact
☐ Minor positive impact ☐ Major negative impact
☒ No net impact

14. Describe the nature and status of implementation including cost-effectiveness.

Cutting and burning are common activities at Fermilab. They are handled in accordance with good industrial hygiene practices including activity review, training, and monitoring. ES&H Manual Chapter 5051 (HazCom) and 5063 (Confined spaces) help to control exposures. Experience has demonstrated that this program is both successful and cost-effective.

FERMILAB IDENTIFICATION TEAM DOCUMENTATION

Issue origin ☒ Hazard analysis ☐ Identification Team

1. Issue(s)

012. Chem - heavy metals such as lead

Focus group ☐ Emergency Management ☐ Fire Protection ☒ Occupational Safety
☐ Environmental Protection ☐ Management & Oversight ☐ Radiation Protection

2. Is there a necessary standard which applies to this issue?

☒ YES ☐ NO

If yes, continue; otherwise skip to 6.

3. Necessary standard(s)

29 CFR 1910.1200
29 CFR 1910.1000
29 CFR 1910.1018 (inorganic arsenic)
29 CFR 1910.1025 (lead)
29 CFR 1926.62 (lead)

4. Are there any aspects of these necessary standard(s) which do not add value?

☐ YES ☒ NO

If yes, continue; otherwise skip to 6.

5. Description of non-value added aspects of necessary standard(s).

6. Is the level of risk associated with the issue(s) consistent with management performance goals assuming compliance with applicable necessary standards?

☒ YES ☐ NO

If no continue; otherwise skip to 12.

7. Is there a non-required external standard which applies to this issue?

☐ YES ☐ NO

If yes, continue; otherwise skip to 10.